

Title (en)

COORDINATE MEASURING MACHINE WITH IMPROVED CARRIAGE DRIVE SYSTEM

Publication

**EP 0386526 B1 19921028 (EN)**

Application

**EP 90103345 A 19900221**

Priority

US 32018989 A 19890307

Abstract (en)

[origin: EP0386526A1] A coordinate measuring machine (10) having an improved carriage drive system including a flexible toothed belt (89) mounted on a rigid spar member (88) to be stretched along the carriage (X) axis. The spar member (88) absorbs the tension loading of the stretched flexible belt (89), while the connection (198, 152) of the spar member (88) to the base (12) precludes stressing of the machine (10) by the belt tension or by thermal stresses. A drive package (118) is mounted to one end of the carriage (40) and includes a toothed drum (126) engaging the flexible belt (89) so that upon being rotated by a drive motor (120) acting through a double reduction pulley system (254, 258, 260, 268, 272, 274) to rotate the toothed drum (126) and cause the carriage (40) to be driven along the ways (32, 34). Flexures (86a, 86b) mounting the belt (89) accommodate side to side movement as the carriage (40) is driven along the axis while being rigid to the tension exerted by the belt (89).

IPC 1-7

**F16H 19/00; G01B 5/00**

IPC 8 full level

**G01B 5/20** (2006.01); **B23Q 5/38** (2006.01); **F16H 19/00** (2006.01); **G01B 5/00** (2006.01); **G01B 5/008** (2006.01); **G01B 21/00** (2006.01)

CPC (source: EP US)

**B23Q 5/385** (2013.01 - EP US)

Citation (examination)

IBM TECHNICAL DISCLOSURE BULLETIN, vol. 26, no. 11, April 1984, pages 5796-5798, New York, US; R.L. HOLLIS, Jr. "Rolabelt" rotary-to-linear motion device using toothed belt"

Cited by

DE4340477C1; EP2623923B1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

**US 4928396 A 19900529**; CA 2009587 A1 19900907; CA 2009587 C 19930525; CN 1045645 A 19900926; DD 300458 A5 19920611; DE 386526 T1 19910207; DE 69000408 D1 19921203; DE 69000408 T2 19930513; EP 0386526 A1 19900912; EP 0386526 B1 19921028; JP H02272301 A 19901107; JP H0778404 B2 19950823; KR 900014853 A 19901025; KR 940000734 B1 19940128

DOCDB simple family (application)

**US 32018989 A 19890307**; CA 2009587 A 19900208; CN 90101189 A 19900303; DD 33844890 A 19900306; DE 69000408 T 19900221; DE 90103345 T 19900221; EP 90103345 A 19900221; JP 4972190 A 19900302; KR 900002984 A 19900307